Development of Horay Course Review Learning Model Assisted by Pasutar Media in Elementary Mathematics Learning: Needs Analysis

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Abstract
The Horay Course Review Learning Model with the help of pasutar media is a combination of the application of the CRH learning model with the traditional game of snakes and ladders to increase students' interest in learning mathematics. This study aims to analyze the need for developing a CRH learning model with the help of pasutar media for third grade elementary school students. This study uses a qualitative approach with a descriptive type of research. The main data were obtained directly by the researcher through observation, interviews, and questionnaires. The research subjects were teachers and third grade students of SD 2 Medini. The needs analysis activity begins with curriculum analysis (core competencies and basic competencies), teacher and student analysis. The data were analyzed by reducing the data, presenting the data and drawing conclusions. The results showed that: (1) the syntax of the media-assisted learning model presented was in accordance with the curriculum; (2) teachers and students need a CRH learning model assisted by the media to increase students' interest in learning mathematics. It can be concluded that the CRH learning model assisted by the pasutar media is very much needed by third grade elementary school students.
Keywords: *Course Review Horay, Pasutar Media, Elementary Mathematics Learning*

Abstrak
Model Pembelajaran Horay Course Review dengan bantuan media pasutar merupakan gabungan penerapan model pembelajaran CRH dengan permainan tradisional ular tangga untuk meningkatkan minat belajar matematika siswa. Penelitian ini bertujuan untuk menganalisis kebutuhan pengembangan model pembelajaran CRH dengan bantuan media pasutar untuk siswa kelas III SD. Penelitian ini menggunakan pendekatan kualitatif dengan jenis penelitian deskriptif. Data utama diperoleh langsung oleh peneliti melalui observasi, wawancara, dan angket. Subjek penelitian adalah guru dan siswa kelas III SD 2 Medini. Kegiatan analisis kebutuhan diawali dengan analisis kurikulum (kompetensi inti dan kompetensi dasar), analisis guru dan siswa. Analisis data dilakukan dengan cara mereduksi data, menyajikan data dan menarik kesimpulan. Hasil penelitian menunjukkan bahwa: (1) sintaksis model pembelajaran berbantuan media yang disajikan sudah sesuai dengan kurikulum; (2) guru dan siswa membutuhkan model pembelajaran CRH berbantuan media untuk meningkatkan minat belajar matematika siswa. Dapat disimpulkan bahwa model pembelajaran CRH berbantuan media pasutar sangat dibutuhkan oleh siswa kelas III SD.
Kata Kunci: Course Review Horay, Media Pasutar, Pembelajaran Matematika SD

INTRODUCTION

The learning process in educational units is carried out interactively, inspiring, fun, challenging, motivating students to participate actively, and providing sufficient space for initiative, creativity, and independence in accordance with the talents, interests, and physical and psychological development of students. This is also supported by Permendikbud 81A (2013: 3) that the learning process should be: (1) student- centered, (2) develop student creativity, (3) create fun and challenging conditions, (4) contain values, ethics, aesthetics, logic, and kinesthetic, and (5) providing a diverse learning experience through the application of various learning strategies and methods that are fun, contextual, effective, efficient, and meaningful.

The purpose of the 2013 curriculum is to prepare Indonesian people to have the ability to live as individuals and citizens who are faithful, productive, creative, innovative, and affective and able to contribute to the life of society, nation, state, and world civilization.

The 2013 curriculum is designed with characteristics consisting of core competencies and basic competencies, in this case the class core competencies become the organizing elements of basic competencies. Furthermore, the learning presented emphasizes the development of spiritual attitudes, collaboration with intellectual and psychomotor abilities through contextual learning that directs students to develop learning experiences at school to be later applied in everyday life. Learning mathematics is a compulsory learning given at every level of education. In general, learning mathematics is not only related to numeracy skills such as adding, subtracting, multiplying, and dividing, but learning mathematics is also related to numbers and geometric shapes.

According to Sufri (2019:1) "Mathematics is a science that has an important role and can develop the power of human thought, and underlies the development of technology in the modern era". Thus mathematics is an important subject from several other subjects given at school. Mathematics subjects need to be given at every level of education in order to equip students with the ability to think logically, analytically, systematically, critically, and creatively and to be able to solve the problems they face in everyday life related to mathematical abilities.

Mathematics learning activities in elementary schools aim to enable students to develop the four competencies that are aspired to in the 2013 curriculum, namely spiritual attitudes, social attitudes, knowledge, and skills. One of the materials studied in grade 3 is the properties of flat shapes found in KD. 3.12 Analyzing various flat shapes based on their properties and KD 4.12 Grouping various flat shapes based on their properties. To achieve these Basic Competencies, it can be measured from the development of several indicators.

The reality on the ground shows that mathematics learning outcomes tend to be low compared to other subject content. Many students do not understand the material that has been taught by the teacher regarding the properties of flat shapes. This is because the implementation of mathematics learning in schools is still done conventionally (teacher-centered learning and using the lecture method). The role of students appears to have not been optimally treated as student subjects who have the potential to develop independently. Based on the learning outcomes of third grade elementary school students in mathematics, they are also still at a level below the KKM, which is 75. This is shown in the UTS score data for the Even Semester of the 2021/2022 academic year with the result that 18 students only 3 students (16.6%) got scores above 75, while 15 students (83.3%) scored below 75.

To overcome the problems that occur, efforts are needed to improve the quality of learning in order to increase student understanding and to liven up the learning atmosphere with active, creative, and innovative students. Teachers can use varied learning models and interactive learning media. The application of varied learning

models can create a conducive and fun learning atmosphere so that students do not feel burdened by the teaching materials that must be mastered. If students themselves seek, process, and conclude what they have learned, the knowledge they get will stick in their minds longer. Teachers as facilitators have the ability to choose an effective learning model according to the characteristics of students, subject matter and learning environment to improve student competence. Not only models, but auxiliary media also need to be applied to learning such as the goal game so that students are motivated and can learn with full concentration. One alternative that the researcher uses is by applying the Course Review Horay (CRH) cooperative learning model with the help of Pasutar Media (Papan Bangun Datar). Shoimin (2014: 54) explains that "The CRH learning model is one of cooperative learning, namely teaching and learning activities by grouping students into small groups. This learning is a test of students' conceptual understanding using boxes filled with questions and numbered to write down the answers. The first student to get the correct mark immediately shouted horay or other yells. There are various games that can be implemented in learning. In this study, the authors used a modified snake and ladder game which was applied together with the CRH learning model. According to Baiquni (2016: 195) snakes and ladders is one of the traditional games that until now still exists to be played by children which can be modified so that it can be used in learning activities, especially at the elementary school level. The selection of the snake and ladder game is supported by the results of research (Kasna: 2015) which states that there is an increase in learning outcomes in mathematics with the help of snakes and ladders media. From the background review above, that is the background of the research entitled " Development of Horay Course Review Learning Model Assisted by Pasutar Media in Elementary Mathematics Learning: Needs Analysis".

METHOD

This study uses a qualitative approach with a descriptive type of research. The subjects of this study were a teacher and 20 third grade students of SD 2 Medini, Undaan District, Kudus Regency. The main data were obtained directly by the researcher through observation, interviews and questionnaires. The instruments used to collect data are as follows: (1) Observation guidelines to obtain information about learning difficulties experienced by students and student learning outcomes; (2) Guidelines for interviews with teachers to obtain information about the development of the CRH learning model, (3) Questionnaires to analyze teacher needs related to the curriculum, including: syllabus, lesson plans, learning models, learning strategies, learning media, and questionnaires on student needs to find out specifications products that students want. Data analysis used descriptive qualitative analysis. The data were analyzed by reducing the data, presenting the data, and drawing conclusions.

a.   Data Reduction

Data reduction is a form of analysis that sharpens, classifies, directs, eliminates unnecessary data, and organizes data in such a way that final conclusions can be drawn and verified. The data reduction stages in this study include:

1) Conduct observations made by teachers and students in the learning process in the classroom.
2) Analyzing core competencies and basic competencies contained in the syllabus, lesson plans, learning models, learning strategies, and learning media.
3) Conducting interviews with research subjects, namely teachers and 3 students. Then the results of the interviews were simplified into a good and neat language structure.
4) Students fill out a questionnaire to find out students' responses to the needs of the CRH learning model with the help of the pasutar media.

b.   Data Presentation

After the data is reduced, the next step is to present the data. Presentation of data in qualitative research can be done in the form of brief descriptions, charts, relationships between categories, flow charts and the like. This activity raises and shows a collection of data or information that is organized and categorized that allows for a conclusion or action. By presenting the data, it will be easier to understand what happened, then plan the next work. The stages of presenting data in this study include:

a. Presenting the results of observations during class learning. The data obtained are presented in the form of narrative text.
b. Presenting the results of the analysis of core competencies and basic competencies contained in the syllabus, lesson plans for learning models, learning strategies, and learning media. The data obtained are presented in the form of narrative text and tables.
c. Presenting the results of interviews about the process of learning mathematics. The data obtained are presented in the form of narrative text.
d. Presenting the results of the questionnaire on student responses to the CRH learning model assisted by the pasutar media. The data obtained are presented in the form of tables and narrative texts.

c.   Drawing conclusions

The third step in analyzing qualitative data according to Miles and Huberman is drawing conclusions. Drawing conclusions is the final stage of this research. Drawing conclusions based on the results of data analysis that has been collected, both obtained by using observations, interviews and questionnaires. The results of the analysis at the data presentation stage were used to compile a needs analysis for the development of the CRH learning model assisted by the pasutar media.

RESULT AND DISCUSSION

The course review horay learning model assisted by the pasutar media was designed and developed based on the results of observations, interviews, and the results of the analysis of the needs of teachers and students. Here is the explanation:

The results of observations made by researchers on the learning process and learning outcomes show that students are enthusiastic about learning activities carried out by teachers, students also focus on paying attention to teacher explanations, besides that students are also active in participating in learning activities to obtain high learning outcomes. On the other hand, students who pay less attention to the teacher's explanation show attitudes such as daydreaming, playing alone, shy, and passive in participating in learning activities so that they get low learning outcomes (below the minimum score criteria). The teacher has not applied the CRH learning model in the learning process. Teachers also have not used interactive learning media such as pasutar media (flat letter boards) in carrying out mathematics learning, especially the material on the properties of flat shapes in grade 3.

(a)   (b)
Figure 3.1 Learning Process Activities

In the picture, some students are less enthusiastic in participating in the learning activities carried out by the teacher, it can be seen that some students daydream and do not listen to the teacher's explanation. Teachers also have not used learning models and innovative learning media to encourage students' interest in learning, it seems that teachers only use conventional learning models and student book media.

From interviews conducted by researchers with teachers and third grade students of SD 2 Medini, the following information was obtained: (1) students did not like mathematics because there was a lot of puzzle material that made students dizzy to find solutions, such as memorizing multiplication, division and formula problems. ; (2) students' numeracy skills are low so that their learning outcomes are low;

Figure 3.2 Researchers do interview with third grade teacher at SD 2 Medini

R : How is the learning process, especially mathematics in class? Are students active?

T : Students are less enthusiastic in learning, tend to be passive because they think mathematics is a difficult subject.

R : How is the learning model applied in the classroom?

T : The applied learning model still uses conventional learning due to limited facilities.

R : Besides the use of learning models, what media are usually used in the mathematics learning process, especially the material on the properties of flat shapes?

T : Only use media that is around students such as books, blackboards, and objects in class.

R : Have you ever used the CRH learning model with the help of the pasutar media in the learning activities that have been carried out?

T : Never, I just found out about the CRH learning model.

Interviews conducted by researchers and teachers are structured interviews. In the interview, the researcher used interview guidelines. The researcher asked several things according to the guidelines that had been previously designed, including those related to students' learning difficulties in learning mathematics, the learning model used, and the media used in the learning process.

Table 3.1 Researcher and Student Interview Results

Aspect	Interview Result
Learning methods and models	The teacher uses the lecture method or conventional learning model in learning mathematics
Learning Media	Teachers use media that are around students such as books, blackboards, and objects in class.
Evaluation	Evaluation using the form of a written test and an oral test (barking)
Constraint	Teachers are less creative and innovative in delivering data presentation material

CRH learning model assisted by the media of couples	The teacher has never used the CRH learning model with the help of the media
Recommendations for innovative learning models	It is recommended that teachers use the development of the CRH learning model assisted by the media in carrying out mathematics learning so that students' interest in learning and learning outcomes increase because it is based on creative and innovative learning so as to prevent difficulties, boredom, and passive attitudes of students in participating in learning

Figure 3.3 Researchers Conducting Interviews with Third Grade Students at SD 2 Medini

The result of the analysis of teacher needs is to analyze the curriculum including the syllabus and lesson plans. Curriculum analysis focuses on the content of grade III elementary school subjects with Core Competencies (KI) and Basic Competencies (KD) according to Permendikbud No. 37 of 2018 as follows:

KD 3.12 Analyzing various flat shapes based on their properties.

KD 4.12 Grouping various flat shapes based on their characteristics. To achieve these Basic Competencies, it can be measured from the development of several indicators.

Based on this KD which is then translated into indicators to realize the learning objectives. The results of the analysis of KI, KD and indicators are in accordance with the syllabus and lesson plans. From the suitability of KI, KD and indicators, then designed and developed a learning syntax with the application of learning models and media in accordance with the learning objectives to be achieved. The CRH learning model assisted by the pasutar media makes it easier for students to understand the material through an active attitude in groups and learning while playing methods, besides students being able to absorb the material taught well through innovative games, learning activities with the CRH model are able to form good characters in students such as cooperation , creative, tolerance, and discipline carried out in study groups.

Table 3.2 Analysis of Syllabus Basic Competencies, Learning Implementation Plans and Application of the CRH Learning Model assisted by Pasutar Media

No	Basic Competencies	Syllabus	Lesson plan	CRH Pembelajaran Learning Model Helped Media Pasutar
3.8	Analyze various flat shapes based on their properties.	√	√	√

4.8	Grouping various flat shapes based on the properties they have	√	√	√

Based on the table above, the competencies contained in the syllabus, lesson plans and the application of the CRH Learning Model assisted by Pasutar Media are in accordance with the 2013 curriculum. KD is used as a benchmark for the preparation of ethnomathematical-based mathematics teaching materials in data presentation materials.

The result of the analysis of student needs is to obtain information about the product specifications desired by students. The researcher gave a questionnaire to 20 students of SD 2 Medini, Undaan District, Kudus Regency. The summary of the questionnaire on student needs for the development of the CRH learning model assisted by the pasutar media in grade III SD 2 Medini, Undaan District, Kudus Regency

Table 3.3 Recapitulation of Student Needs Questionnaire

No	Question	The number of students who answered			
		Yes	%	No	%
1	Do you like math lessons?	7	5	3	65
2	Are you active in learning Mathematics?	9	5	1	55
3	Do you easily understand the material given by the teacher in learning Mathematics?	8	0	2	60
4	Do teachers often communicate with students during learning activities in class?	6	0	4	70
5	Does the teacher use the media in explaining mathematics subject matter in class?	10	0	0	50
6	Do teachers often create discussion groups in carrying out learning activities in class?	12	0		40
7	Does the teacher use learning strategies by using games such as the market game?	9	5	1	55
8	Does the teacher conduct experiments in the implementation of learning activities?	7	5	3	65
9	Do you like the display of attractive and innovative images in learning Mathematics?	20	00		0
10	Do you like the use of the CRH learning model in math learning activities?	20	00		0

From the results of the student assessment questionnaire, the following information was obtained: (1) students need innovative learning models such as the CRH learning model in learning activities to increase student interest in learning and student learning outcomes, (2) learning is still teacher-centered, so students feel bored just

listening lectures and lack of opportunities to channel their potential, (3) teachers have not conducted experiments related to learning difficulties experienced by students so that the learning carried out has never experienced renewal for the better.

In this study, students took the data presentation test 2 times. The first test is called the pretest, which is carried out before students get learning treatment by applying the CRH learning model assisted by the media pasutar in mathematics lessons, especially about the material properties of flat shapes, which results in 11 students whose scores are above the KKM, meaning that there are 9 students whose scores are below the KKM. While the second test called the posttest was carried out by providing learning treatment through the application of the CRH learning model assisted by the pasutar media in mathematics lessons, especially regarding the material properties of flat shapes, which resulted in students whose scores were above the KKM as many as 17 students, meaning that there were still 3 students whose scores were under KKM. This shows that there is an increase in student learning outcomes when using the CRH learning model with the help of social media in learning mathematics. The percentage of student learning outcomes can be seen in the diagram below
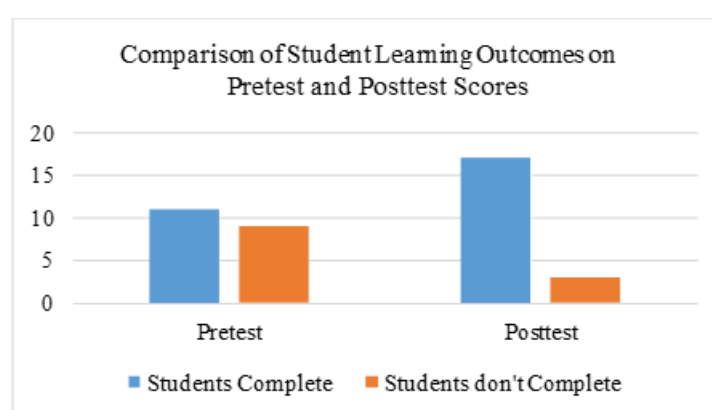

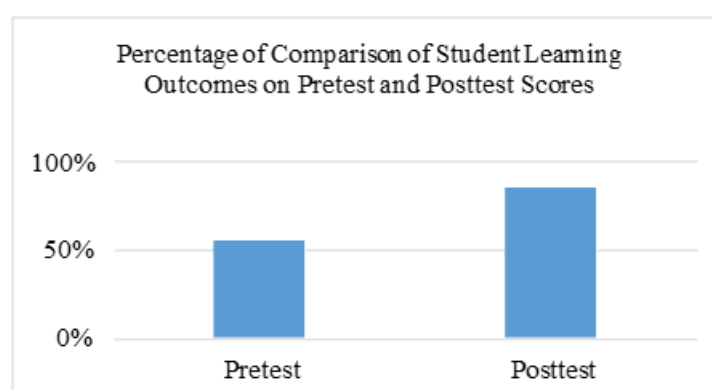Figure 3.4 Comparison of Student Learning Outcomes

Figure 3.5 Percentage of Comparison of Student Learning Outcomes

Based on Figure 3.4 and Figure 3.5, the results of the posttest scores are used to determine whether there is a difference in the effectiveness of learning outcomes from the application of the development of the CRH model with the help of the tide media in the 3rd grade mathematics subject "the properties of flat shapes". Based on Figure 3.4 and Figure 3.5, the results of the pretest and posttest scores have reached the minimum completeness criteria (KKM) set at SD 2 Medini, which is 75. It is shown that the posttest score is 30% higher than the pretest score.

CONCLUSION

The CRH learning model assisted by the pasutar media is a learning model that can be designed and developed by teachers to overcome students' learning difficulties in learning mathematics. The CRH learning model assisted by the pasutar media is designed to suit the needs of students in increasing the success of learning mathematics, the CRH learning model assisted by the pasutar media is modified by the application of traditional games and the use of interactive media so as to make students active, enthusiastic, and able to understand the material presented very well. good so that student learning outcomes increase. The results showed that: (1) the syntax of the media-assisted learning model presented was in accordance with the curriculum; (2) teachers and students need a CRH learning model assisted by the media to increase students' interest in learning mathematics. It can be concluded that the CRH learning model assisted by the pasutar media is very much needed by third grade elementary school students.

Teachers should apply the CRH learning model assisted by interesting and innovative media to increase student interest and learning outcomes. The application of this learning model is not only related to the content of the Mathematics subject but is followed by other subject matter.

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